

CLAIMS

1. An apparatus for clamping together in a stack at least one tray adapted to hold a plurality of integrated circuits in pockets disposed therein and a cover, the apparatus comprising:
 - a base forming a bottom of a channel, the channel allowing for the insertion and removal of the stack;
 - first and second restraining segments attached to the base that together with the base form a channel structure, wherein the channel structure restricts substantial movement of the stack both transverse to a length of the channel and perpendicular to a plane of the base; and
 - at least two pressure members attached to the channel structure for providing pressure on a perimeter of the stack to clamp the stack together between each of the pressure members and a portion of the channel structure, thereby preventing movement of the tray independent of the cover and ensuring that the integrated circuits maintain disposed within the pockets of the tray.
2. An apparatus as recited in claim 1 wherein only the at least two pressure members apply pressure to the stack, and include:
 - a first resilient member extending from the base on one end of the channel; and
 - a second resilient member extending from the base on a second end of the channel that is opposite the one end of the channel.
3. An apparatus as recited in claim 1 wherein the first and second restraining segments each include:
 - a wall extending upward from the base, each wall disposed on respective opposing sides of the channel; and
 - a protrusion attached to the wall above the base and extending inwards towards the channel so as to extend over the perimeter of the stack when the stack is inserted in the channel.

4. An apparatus as recited in claim 3 wherein the portion of the channel structure is the protrusions: and

wherein the at least two pressure members include:

a first resilient member extending from the base on one end of the channel; and

a second resilient member extending from the base on a second end of the channel that is opposite the one end of the channel.

5. An apparatus as recited in claim 3 wherein the portion of the channel structure is the protrusions: and

wherein the two pressure members include:

a first pressure member extending from the base and positioned adjacent the one side of the channel; and

a second pressure member extending from the base and positioned adjacent the opposing side of the channel.

6. An apparatus as recited in claim 3 wherein the portion of the channel structure is the base; and

wherein the two pressure members include:

a first pressure member extending from one of the protrusions and positioned adjacent the one side of the channel; and

a second pressure member extending from the other of the protrusions and positioned adjacent the opposing side of the channel.

7. An apparatus as recited in claim 1 wherein only the at least two pressure members apply pressure to the stack, and include:

a first pressure member extending from one of the base and one of the protrusions and positioned adjacent the one side of the channel; and

a second pressure member extending from one of the base and the other of the protrusions and positioned adjacent the opposing side of the channel.

8. The apparatus according to claim 1 wherein the apparatus is injection molded in one piece using an injection molding material.

9. The apparatus according to claim 8 wherein the at least two pressure members each are disposed in a first plane different than a second plane formed by a surface of the channel structure to which each of the at least two pressure members are attached.

10. An apparatus as recited in claim 9 wherein the first and second restraining segments each include:

- a wall extending upward from the base, each wall disposed on respective opposing sides of the channel; and

- a protrusion attached to the wall above the base and extending inwards towards the channel so as to extend over the perimeter of the stack when the stack is inserted in the channel.

11. An apparatus as recited in claim 10 wherein the portion of the channel structure is the protrusions: and

- wherein the at least two pressure members includes:

- a first resilient member extending from the base on one end of the channel; and

- a second resilient member extending from the base on a second end of the channel that is opposite the one end of the channel.

12. An apparatus as recited in claim 10 wherein the portion of the channel structure is the protrusions: and

- wherein the two pressure members include:

- a first pressure member extending from the base and positioned adjacent the one side of the channel; and

- a second pressure member extending from the base and positioned adjacent the opposing side of the channel.

13. An apparatus as recited in claim 10 wherein the portion of the channel structure is the base; and
- wherein the two pressure members include:
- a first pressure member extending from one of the protrusions and positioned adjacent the one side of the channel; and
- a second pressure member extending from the other of the protrusions and positioned adjacent the opposing side of the channel.
14. An apparatus as recited in claim 8 wherein only the at least two pressure members apply pressure to the stack,
15. An apparatus as recited in claim 1 wherein only the at least two pressure members apply pressure to the stack.
16. An apparatus for clamping together in a stack at least one tray and a cover, the apparatus comprising:
- horizontal restraining means for restraining the stack laterally in one direction;
- vertical restraining means for restraining the stack in a vertical direction; and
- pressure means for application of a force to urge the stack into contact with a portion of the vertical restraining means, wherein the pressure means is configured for applying the force only to a perimeter of the stack.
17. An apparatus as recited in claim 16 wherein:
- the horizontal restraining means includes first and second side walls spaced apart to form a channel; and
- the vertical restraining means includes a base and first and second protrusions each extending inwards from the first and second walls.
18. An apparatus as recited in claim 17 wherein the pressure means is attached to the base.

19. An apparatus as recited in claim 18 wherein the pressure means includes a first resilient member disposed at a first end of the channel and a second resilient member disposed at a second end of the channel.

20. An apparatus as recited in claim 18 wherein the pressure means includes a first resilient member disposed on the base opposite the first protrusion and a second resilient member disposed on the base opposite the second protrusion.

21. An apparatus as recited in claim 17 wherein the pressure means is attached to the first and second protrusions.

22. An apparatus as recited in claim 21 wherein the pressure means includes a first resilient member attached to the first protrusion and a second resilient member attached to the second protrusion.

23. A method of holding a plurality of integrated circuits within pockets of a tray, and wherein the tray has a cover disposed thereover so that the tray and the cover form a stack, the method comprising the steps of:

inserting the plurality of integrated circuits within the pockets of the tray;

covering the tray with the cover to form the stack; and

clamping the stack by applying a force only at a perimeter of the stack using a one-piece re-usable assembly, the step of clamping applying the force at opposite ends of the stack to maintain stability of the stack and ensuring that the integrated circuits maintain disposed within the pockets of the tray.

24. An apparatus as recited in claim 1 wherein said pressure is additionally applied to a non-perimeter area.

25. An apparatus as recited in claim 16 wherein a force is additionally applied to a non-perimeter area.

26. A method as recited in claim 23 wherein pressure is additionally applied to a non-perimeter area.